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# Cash Flow Trends and Their Fundamental Drivers: A Continuing Look
# The S&P 500 Non-financials (Qtr 3, 2008)

## EXECUTIVE SUMMARY

This research report is one of a series that looks at the cash flow performance of Corporate America. Our primary focus is on free cash margin, or free cash flow measured as a percent of revenue. In the current study we look at the non-financials of the S&P 500.

During the twelve months ended September 2008, free cash margin for the S&P 500 non-financials declined to 6.70% from 7.13% for the twelve months ended September 2007. Interestingly, operating cash margin improved slightly during the same period, helped by improvements in operating cushion and the operating cycle. It appears that increased capital spending pushed net cash margin lower even as operating cash margin improved. As a point of reference, free cash margin troughed at 4.36% in the 2001 recession. Thus, by all indications, we can expect a significant decline in free cash margin from current levels. While we do not know how far free cash margin might decline, at the present, with a median $666.7 million on hand, these firms had ample cash and short-term investments to help them weather the financial storm.

**Data for this research were provided by Cash Flow Analytics, LLC., www.cashflowanalytics.com.**
**Charles Mulford is a principal in Cash Flow Analytics, LLC.**

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## Georgia Tech Financial Analysis Lab

The Georgia Tech Financial Analysis Lab conducts research on issues of financial reporting and analysis. Unbiased information is vital to effective investment decision-making. Accordingly, we think that independent research organizations, such as our own, have an important role to play in providing information to market participants.

Because our Lab is housed within a university, all of our research reports have an educational quality, as they are designed to impart knowledge and understanding to those who read them. Our focus is on issues that we believe will be of interest to a large segment of stock market participants. Depending on the issue, we may focus our attention on individual companies, groups of companies, or on large segments of the market at large.

A recurring theme in our work is the identification of reporting practices that give investors a misleading signal, whether positive or negative, of corporate earning power. We define earning power as the ability to generate a sustainable stream of earnings that is backed by cash flow. Accordingly, our research may look into reporting practices that affect either earnings or cash flow, or both. At times, our research may look at stock prices generally, though from a fundamental and not technical point of view.

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**Cash Flow Trends and Their Fundamental Drivers:**

## A Continuing Look

## The S&P 500 Non-financials (Qtr 3, 2008)

### Introduction

This research report is part of a continuing series of reports that examine cash flow trends and the underlying drivers that are causing changes in those trends. Here we examine the cash flow performance of the S&P 500 non-financials using median cash flow measures and trailing twelve-month data for each quarter beginning with quarter 1 of 2000 and extending through quarter 3 of 2008. In other reports we look at a broad range of sectors and industries.

The objective of our research is to examine the many factors that are driving observed cash flow trends. However, we think that one cash flow metric stands out as being particularly relevant to financial performance: free cash margin. Measured as free cash flow divided by revenue, free cash margin is a cash flow profit margin. It indicates what percent of revenue is left for shareholders in the form of free and discretionary cash flow. If the company sells its products or services for a dollar, free cash margin tells us how many cents the shareholders can take home without reducing the company's ability to generate more. Thus, as we look at cash flow trends and their underlying drivers, our particular interest is on how those factors impact free cash margin.

### Our Continuing Focus on Cash Flow

Corporate financial success is dependent not only on a company's ability to generate revenues and earnings, but also cash flow, especially free cash flow. It is free cash flow and growth in free cash flow, that discretionary stream of cash that a company can put to use for acquisitions, debt retirement, dividends and stock buybacks that works with growing earnings to drive firm value higher. Because it is "free," free cash flow comes with no strings attached. It is truly discretionary. Spending it does not impact the company's ability to generate more.

A company with revenue growth will eventually lose the favor of investors if it never finds a way to generate earnings. In a similar way, a company with profits that is unable to generate cash will also experience waning investor enthusiasm. It may take a while. Investors are patient with profitable, growing companies. Ultimately, however, a company must show an ability to generate free cash flow.

Companies that consume cash must continually seek new sources of capital – whether debt or equity. At some point, those sources of capital will dry up or become prohibitively expensive if the firm does not show at least some progress toward getting closer to positive cash generation. Worse, if cash flow does not back a company's earnings, ultimately those earnings themselves may become suspect, necessitating write-downs of the resulting non-cash assets. Net losses will likely accompany those write-downs.

**Cash Flows During Recessions**

During periods of economic contraction, revenues and profitability decline. A company's ability to generate cash flow declines as well. A decline in a firm's ability to generate cash is of particular concern given the importance of cash flow to a firm's economic well being.

When free cash margin is positive, a firm is covering all ongoing claims and is able to pay dividends, reduce debt or simply add to its cash coffers. When free cash margin turns negative, ongoing claims are not being met. Cash and short-term investments can be used to meet the shortfall. However, on-hand cash and short-term investments are not an unlimited source of funds. Firms can borrow money to meet their needs, but even if this were an option, increasing debt levels add new, unwanted risks. Equity issues provide another avenue, but capital markets are painfully dilutive when share prices are depressed by recession. Thus, free cash margin serves as an important measure of long-term financial health and one that is particularly relevant during a recession.

We think that by periodically examining their cash generating ability, we will gain insight into the overall financial health of important segments of U.S. firms such as the S&P 500, or of different industry groups. With data dating back to 2000, we will see how the cash-generating performance of these firms presently compares with their performance during the 2001 recession.

***Cash Flow Definitions***

Free cash flow is the cash flow equivalent of the income statement "bottom line." Like net income, free cash flow is available for shareholders after all prior claims have been satisfied. However, also like net income, which, to facilitate analysis, can be divided into certain sub-measures of performance, like gross profit and operating profit, free cash flow can be similarly divided. Thus, while our primary focus is on free cash flow and free cash margin, or free cash flow as a percentage of revenue, we analyze here the fundamental drivers underlying two distinct, but also closely related, measures of cash flow:

1) Operating cash flow and operating cash margin - cash flow from operations after interest charges and income taxes. Operating cash margin is operating cash flow divided by revenue.

2) Free cash flow and free cash margin - cash flow available for common shareholders that can be used for such discretionary purposes as stock buybacks and dividends without affecting the firm's ability to grow and generate more. This measure is calculated as operating cash flow less preferred dividends and net capital expenditures. Free cash margin is free cash flow divided by revenue.

**Data and Methodology**

Our data is provided by Cash Flow Analytics, LLC.[1] As noted, each data amount is for a rolling twelve-month period ending with the quarter end in question. For example, cash flow amounts for September 30, 2008 represent amounts for the twelve months (four quarters) ending September 30, 2008.

We begin by presenting in Exhibit 1 a graph of median free cash margin for the non-financials of the S&P 500 for a series of rolling twelve-month periods. We begin with the twelve month period ending with the first quarter of 2000 (March 2000) and extend through the twelve-month period ending with the third quarter of 2008 (September 2008). By using twelve-month data, we get a clearer picture of developing trends while limiting the noise associated with seasonal variations. In Exhibit 2 we present operating cash margin, which is measured before deductions for capital expenditures and preferred dividends. Exhibit 3 looks at the relationship between free cash margin and operating cash margin showing primarily the effects on free cash margin of changes in capital expenditure policy. We then supplement these data with a closer look at the fundamental drivers behind the cash flow margins.

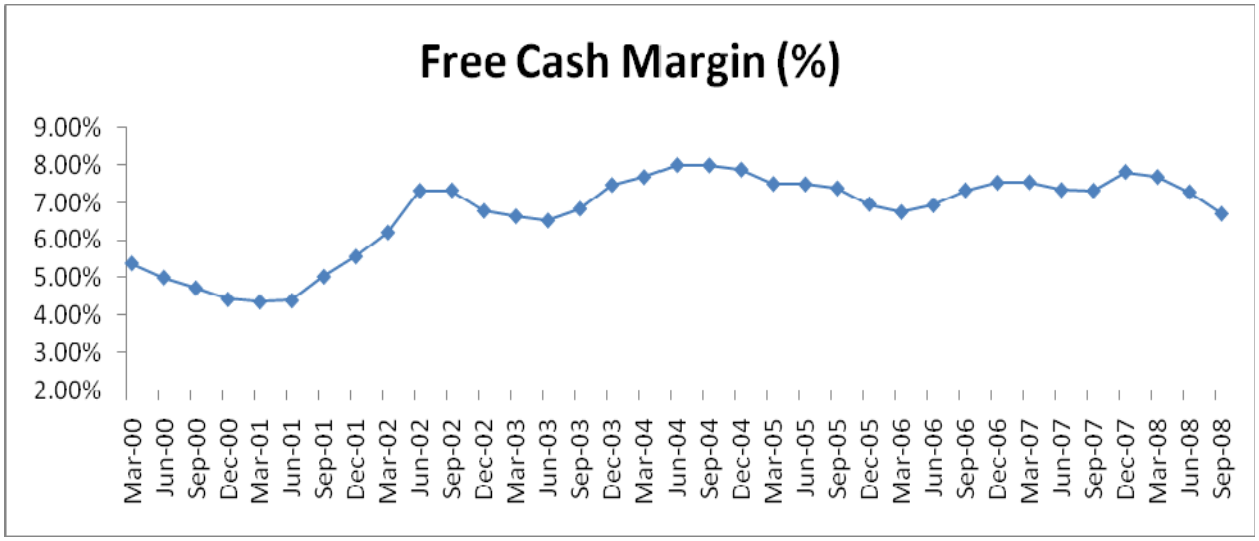
**Cash Flow Margins**

***Free Cash Margin: 6.70%***

In Exhibit 1, we see that during the twelve months ended September 2008, free cash margin declined to 6.70% from 7.31% in the twelve months ending September 2007 and a near-term peak of 7.80% in the twelve months ending December 2007. In the 2001 recession, free cash margin found a trough at 4.36% in the twelve months ending March 2001 and improved later in the year. Companies' ability to generate cash, as measured by free cash margin, has been remarkably high in recent years. A significant decline in the metric is expected as the effects of recession become more widespread. The open question is how far free cash margin might decline in a deeper recession? Might it find a low point of around 4%, similar to the 2001 recession, or go lower? Might it turn negative? These remain open questions. As a point of reference, if free cash margin were to decline on the order of 300 basis points (e.g., from 7.80% to 4.80%) from its most recent peak, median free cash flow for the S&P firms would be expected to decline by approximately $250 million, over 40% of its current amount. A decline of 600 basis points (e.g., from 7.8% to 1.8%) would cut median free cash flow for the S&P 500 firms by nearly 90%, leaving it barely above break even.

[1] Cash Flow Analytics, LLC, 1727 Malvern Place, Duluth, Georgia, 30097. www.cashflowanalytics.com. Charles Mulford is a principal in Cash Flow Analytics, LLC.

**Exhibit 1. Median Free Cash Margin, 2000 – 2008, S&P 500 Non-financials.**

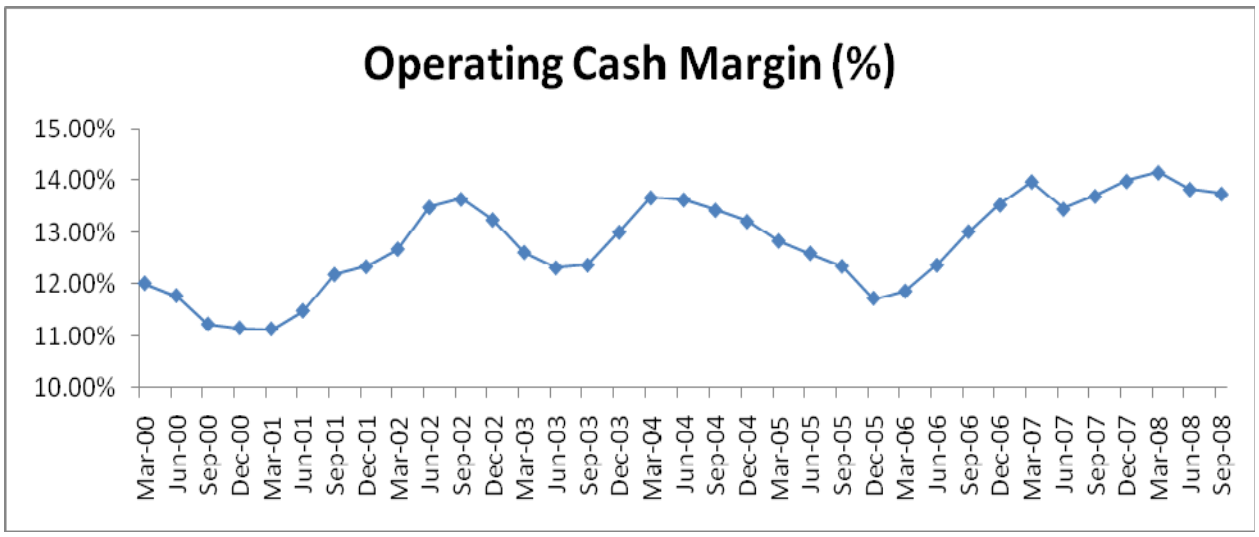



Refer to Table 1 for supporting data.

***Operating Cash Margin: 13.75%***

In Exhibit 2, we see that operating cash margin, which is based on companies' reported operating cash flow and excludes capital expenditures, is showing considerable strength. During the twelve months ended September 2008, operating cash margin remained relatively flat at 13.75% when compared with 13.70% for the twelve months ending September 2007. Like free cash margin, operating cash margin bottomed at 11.13% in the twelve month period ending March 2001.

**Exhibit 2. Median Operating Cash Margin, 2000 – 2008, S&P 500 Non-financials.**

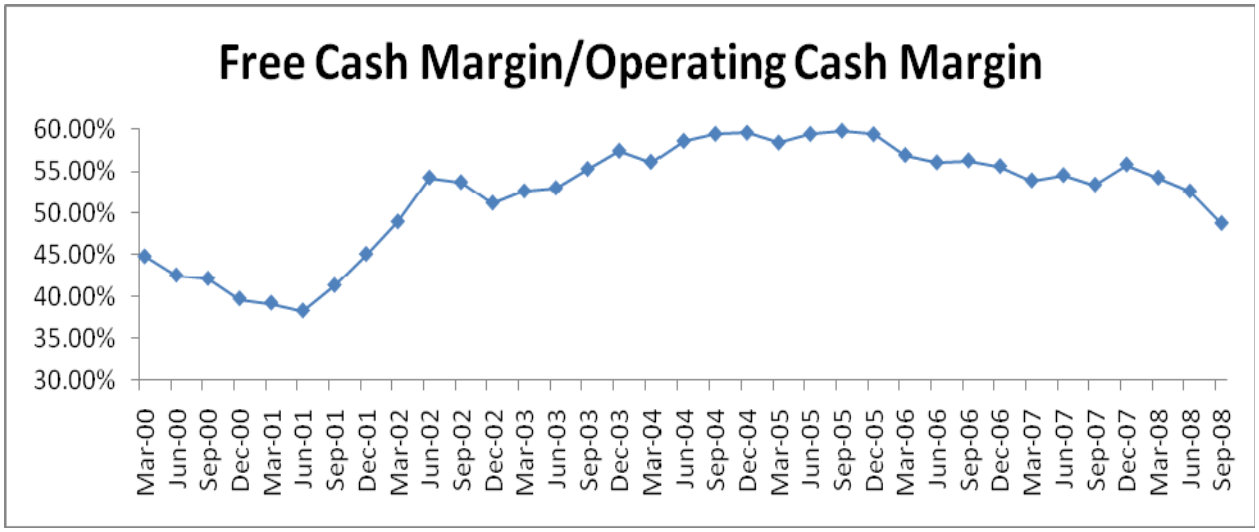



Refer to Table 1 for supporting data.

***Ratio of Free Cash Margin to Operating Cash Margin: 49.08%***

In Exhibit 3, we graph the ratio of free cash margin to operating cash margin. Given that capital expenditures are the primary difference between the two cash margin measures, broad changes in capital spending relative to revenue will impact their relationship. Increases in the ratio indicate declines in capital spending relative to revenue while decreases in the ratio indicate increases in capital expenditures. In examining the Exhibit we see that in the 2001 recession, the ratio of free cash margin to operating cash margin reached a bottom of 39.2% in the twelve months ending June 2001. Presently, the ratio is following a similar declining trend, falling to 48.73% in the twelve months ending September 2008.

**Exhibit 3. The Ratio of Free Cash Margin to Operating Cash Margin, 2000 – 2008, S&P 500 Non-financials.**

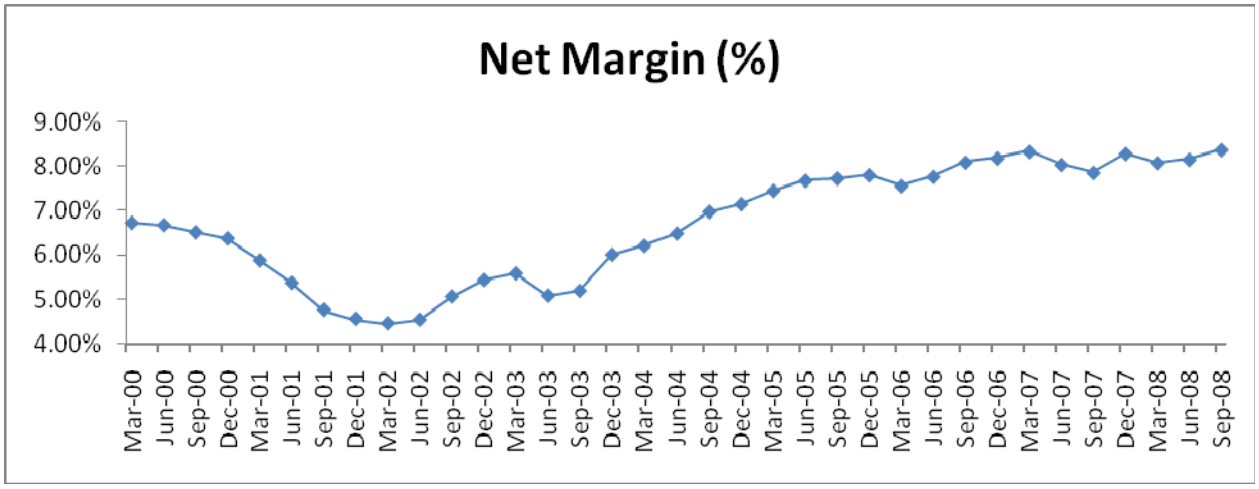



Refer to Table 1 for supporting data.

***Net Margin: 8.38%***

In Exhibit 4, we present a graph of median net margin, measured as net income from continuing operations divided by revenue. Net margin measures profitability but not cash flow generation. Nonetheless, profitability is vital to a company's ability to generate cash flow in the long-run. During the twelve months ended September 2008, net margin improved to 8.38% from 7.86% for the twelve months ended September 2007. As a point of reference, net margin troughed at 4.46% in the twelve months ended March 2002, a period that included the 2001 recession.

**Exhibit 4. Median Net Margin from Continuing Operations, 2000 – 2008, S&P 500 Non-financials.**




Refer to Table 1 for supporting data.

**Table 1 Margins, 2000 – 2008, S&P 500 Non-financials.**

| Date | Operating Cash Margin (%) | Free Cash Margin (%) | Free Cash Margin/Operating Cash Margin | Net Margin (%) |
|---|---|---|---|---|
| Mar-00 | 12.01% | 5.38% | 44.79% | 6.73% |
| Jun-00 | 11.77% | 5.01% | 42.53% | 6.68% |
| Sep-00 | 11.22% | 4.73% | 42.13% | 6.51% |
| Dec-00 | 11.15% | 4.43% | 39.71% | 6.38% |
| Mar-01 | 11.13% | 4.36% | 39.20% | 5.88% |
| Jun-01 | 11.48% | 4.39% | 38.28% | 5.37% |
| Sep-01 | 12.18% | 5.03% | 41.30% | 4.76% |
| Dec-01 | 12.34% | 5.56% | 45.08% | 4.56% |
| Mar-02 | 12.68% | 6.20% | 48.92% | 4.46% |
| Jun-02 | 13.49% | 7.31% | 54.21% | 4.54% |
| Sep-02 | 13.65% | 7.32% | 53.67% | 5.06% |
| Dec-02 | 13.25% | 6.78% | 51.15% | 5.43% |
| Mar-03 | 12.62% | 6.63% | 52.58% | 5.59% |
| Jun-03 | 12.32% | 6.52% | 52.95% | 5.08% |
| Sep-03 | 12.37% | 6.83% | 55.24% | 5.19% |
| Dec-03 | 13.01% | 7.46% | 57.38% | 6.01% |
| Mar-04 | 13.67% | 7.67% | 56.08% | 6.21% |
| Jun-04 | 13.64% | 7.98% | 58.54% | 6.49% |
| Sep-04 | 13.43% | 7.98% | 59.38% | 6.98% |
| Dec-04 | 13.21% | 7.86% | 59.51% | 7.15% |
| Mar-05 | 12.84% | 7.49% | 58.35% | 7.45% |
| Jun-05 | 12.60% | 7.48% | 59.37% | 7.68% |
| Sep-05 | 12.34% | 7.38% | 59.75% | 7.73% |
| Dec-05 | 11.72% | 6.96% | 59.34% | 7.80% |
| Mar-06 | 11.86% | 6.75% | 56.88% | 7.56% |
| Jun-06 | 12.37% | 6.93% | 56.01% | 7.77% |
| Sep-06 | 13.02% | 7.32% | 56.25% | 8.09% |
| Dec-06 | 13.54% | 7.52% | 55.57% | 8.19% |
| Mar-07 | 13.98% | 7.53% | 53.88% | 8.34% |
| Jun-07 | 13.45% | 7.33% | 54.50% | 8.04% |
| Sep-07 | 13.70% | 7.31% | 53.37% | 7.86% |
| Dec-07 | 13.99% | 7.80% | 55.77% | 8.29% |
| Mar-08 | 14.16% | 7.67% | 54.21% | 8.08% |
| Jun-08 | 13.84% | 7.28% | 52.58% | 8.16% |
| Sep-08 | 13.75% | 6.70% | 48.73% | 8.38% |

## Cash Flow Measures

For a look at the level of free cash flow and operating cash flow and for trends in those measures, we present Exhibit 5. Both cash flow measures are accumulated for a series of rolling twelve-month periods ending with each quarter March 2000 through September 2008.

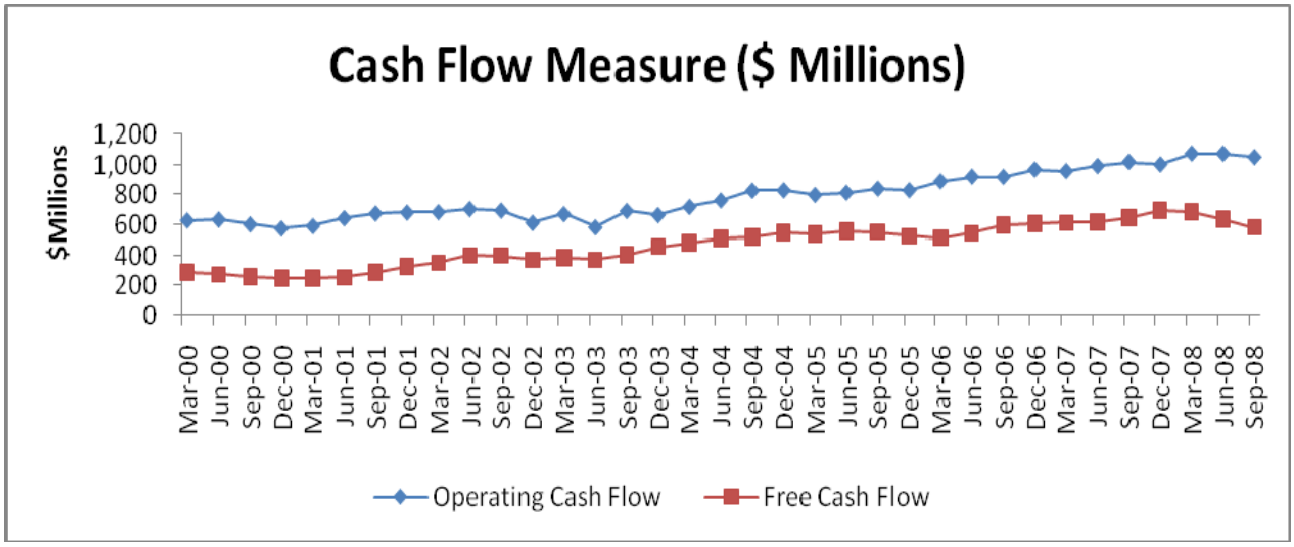
***Median Free Cash Flow: $567.8 million***

Reflecting the reduction seen in free cash margin, during the twelve months ended September 30, 2008, median free cash flow declined 9.86% to $581.96 million from $645.59 million reported for the twelve months ended September 30, 2007. The measure peaked most recently at $695.4 million in the December 2007 period.

***Median Operating Cash Flow: $1,048.0 million***

During the twelve months ended September 30, 2008, median operating cash flow increased 3.02% to $1,048.00 million from $1,017.21 million in the twelve months ending September 2007. The measure's most recent peak, $1,072.00 million, occurred in the twelve months ending March 2008.

**Exhibit 5. Median Free Cash Flow and Median Operating Cash Flow, 2000 – 2008, S&P 500 Non-financials.**

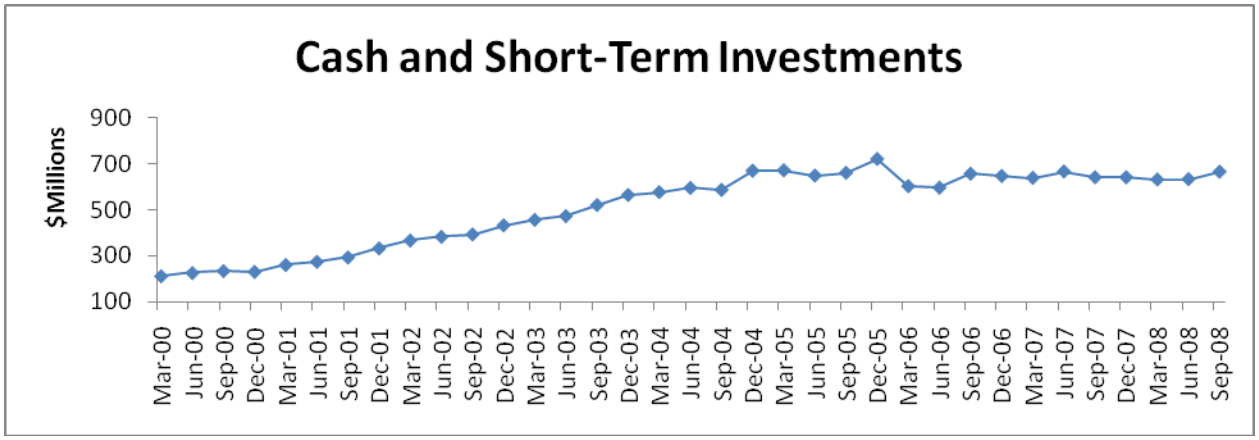



Refer to Table 2 for supporting data.

***Cash and Short-term Investments on Hand: $666.7 Million***

As of September 2008, the median balance in cash and short-term investments held by S&P 500 non-financial firms increased 3.75% from $642.60 million at September 2007. While the amount of free cash flow declined during the period, cash and short-term investments may have increased due to other factors, including investing activities besides capital expenditures and financing activities. A graph of cash and short-term investments is presented in Exhibit 6. With a cash and short-term investments balance of $666.70 million at September 2008, the S&P companies are quite liquid. That cash and investments balance is two and a half times the balance carried in March 2001 at the beginning of the last recession.

**Exhibit 6. Cash and Short-term Investments, 2000 – 2008, S&P 500 Non-financials.**




Refer to Table 1 for supporting data.

**Table 2. Cash Flow Measures, 2000 – 2008, S&P 500 Non-financials.**

| Date | Operating Cash Flow | % Change | Free Cash Flow | % Change | Cash and Short-Term Investments | % Change |
|---|---|---|---|---|---|---|
| Mar-00 | 627,279,000 | | 291,263,710 | | 211,246,000 | |
| Jun-00 | 633,342,500 | 0.97% | 275,984,613 | -5.25% | 225,312,000 | 6.66% |
| Sep-00 | 601,616,500 | -5.01% | 264,448,541 | -4.18% | 233,916,500 | 3.82% |
| Dec-00 | 574,816,000 | -4.45% | 251,662,360 | -4.84% | 230,413,000 | -1.50% |
| Mar-01 | 589,900,000 | 2.62% | 253,754,857 | 0.83% | 260,463,000 | 13.04% |
| Jun-01 | 642,518,000 | 8.92% | 259,626,081 | 2.31% | 274,056,000 | 5.22% |
| Sep-01 | 673,200,000 | 4.78% | 290,200,909 | 11.78% | 293,100,000 | 6.95% |
| Dec-01 | 679,164,000 | 0.89% | 328,749,637 | 13.28% | 332,524,500 | 13.45% |
| Mar-02 | 681,878,500 | 0.40% | 353,757,090 | 7.61% | 366,904,000 | 10.34% |
| Jun-02 | 702,000,000 | 2.95% | 402,876,795 | 13.89% | 383,000,000 | 4.39% |
| Sep-02 | 692,379,000 | -1.37% | 400,808,441 | -0.51% | 393,557,000 | 2.76% |
| Dec-02 | 611,300,000 | -11.71% | 373,797,482 | -6.74% | 433,000,000 | 10.02% |
| Mar-03 | 668,592,000 | 9.37% | 388,951,420 | 4.05% | 457,000,000 | 5.54% |
| Jun-03 | 582,397,000 | -12.89% | 373,914,140 | -3.87% | 473,351,000 | 3.58% |
| Sep-03 | 690,113,000 | 18.50% | 408,459,645 | 9.24% | 521,443,000 | 10.16% |
| Dec-03 | 662,749,500 | -3.97% | 458,706,131 | 12.30% | 565,500,000 | 8.45% |
| Mar-04 | 716,594,500 | 8.12% | 484,387,560 | 5.60% | 577,768,500 | 2.17% |
| Jun-04 | 760,004,000 | 6.06% | 510,512,850 | 5.39% | 596,164,000 | 3.18% |
| Sep-04 | 825,081,000 | 8.56% | 521,989,908 | 2.25% | 587,841,000 | -1.40% |
| Dec-04 | 827,602,000 | 0.31% | 548,501,457 | 5.08% | 671,000,000 | 14.15% |
| Mar-05 | 796,940,500 | -3.70% | 542,288,359 | -1.13% | 672,792,500 | 0.27% |
| Jun-05 | 811,692,000 | 1.85% | 559,462,112 | 3.17% | 649,784,000 | -3.42% |
| Sep-05 | 838,600,000 | 3.32% | 554,923,468 | -0.81% | 662,000,000 | 1.88% |
| Dec-05 | 828,700,000 | -1.18% | 527,647,380 | -4.92% | 722,500,000 | 9.14% |
| Mar-06 | 887,990,000 | 7.15% | 515,654,458 | -2.27% | 603,636,000 | -16.45% |
| Jun-06 | 918,700,000 | 3.46% | 546,669,180 | 6.01% | 597,000,000 | -1.10% |
| Sep-06 | 917,294,000 | -0.15% | 598,973,801 | 9.57% | 658,000,000 | 10.22% |
| Dec-06 | 966,200,000 | 5.33% | 607,345,311 | 1.40% | 648,159,000 | -1.50% |
| Mar-07 | 956,534,000 | -1.00% | 613,796,637 | 1.06% | 640,000,000 | -1.26% |
| Jun-07 | 989,713,500 | 3.47% | 616,852,855 | 0.50% | 668,035,000 | 4.38% |
| Sep-07 | 1,017,206,500 | 2.78% | 645,598,953 | 4.66% | 642,566,500 | -3.81% |
| Dec-07 | 999,990,000 | -1.69% | 695,414,245 | 7.72% | 642,600,000 | 0.01% |
| Mar-08 | 1,072,000,000 | 7.20% | 681,930,058 | -1.94% | 632,845,000 | -1.52% |
| Jun-08 | 1,070,846,500 | -0.11% | 633,612,488 | -7.09% | 634,587,000 | 0.28% |
| Sep-08 | 1,048,000,000 | -2.13% | 581,963,407 | -8.15% | 666,727,000 | 5.06% |

## Cash Flow Drivers

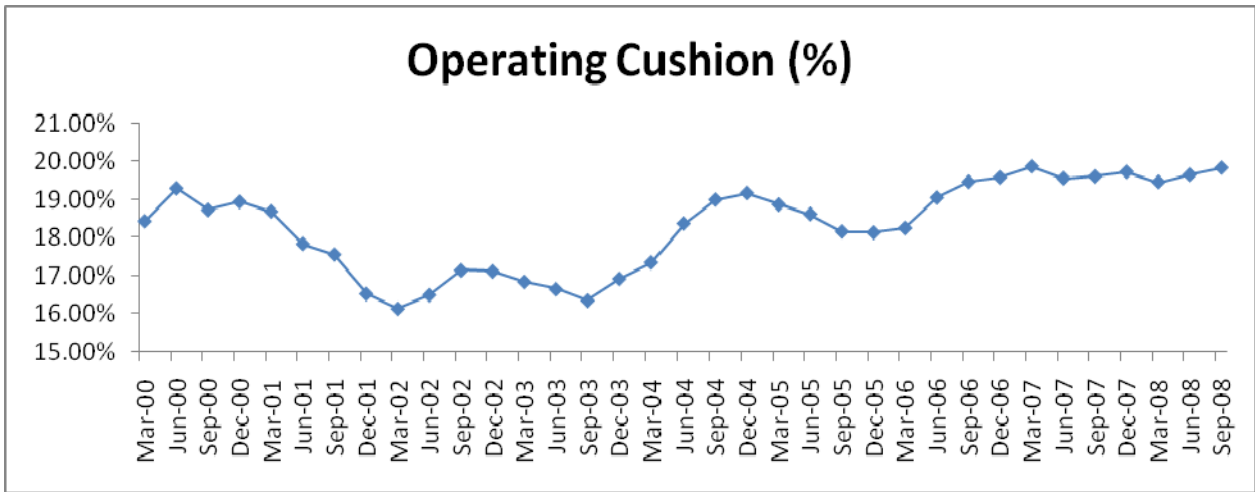
Operating cash margin is a function of a firm's profitability and efficiency. With profitability we refer to operating cushion, which is the firm's operating profit margin before such non-cash expenses such as depreciation and amortization. With efficiency we refer to the extent to which the firm requires investments in operating working capital, reflected in its cash cycle, the number of days the firm has its own funds tied up in operating working capital. Also affecting operating cash margin are the effects of other income and income taxes paid. Free cash margin

incorporates preferred dividends and capital expenditures. Thus, all of these factors are drivers affecting changes in free cash margin.

***Profitability***

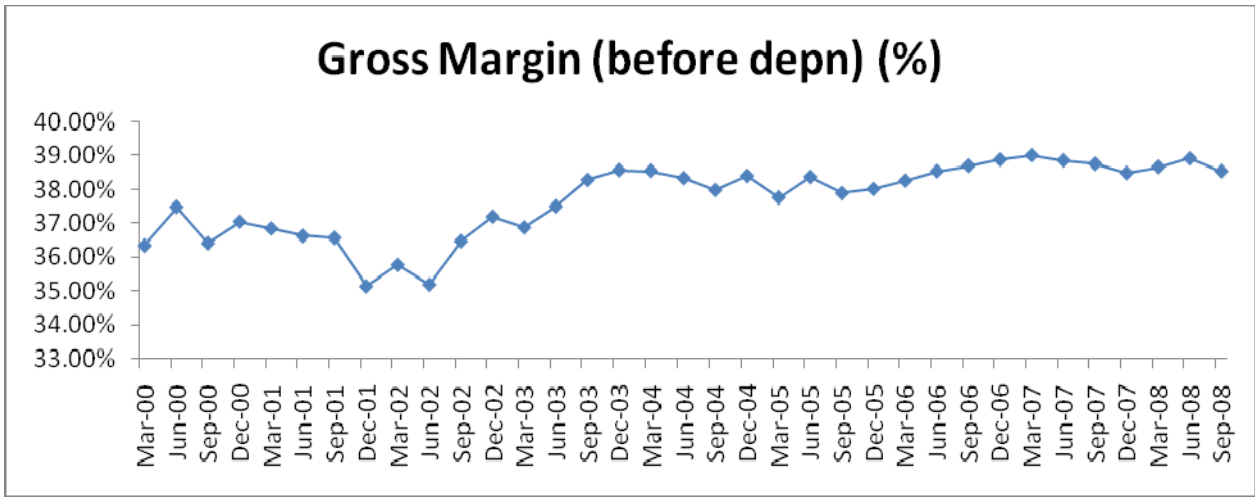
In Exhibit 7, we look at operating cushion or operating profit before depreciation and amortization. The Exhibit is followed with separate graphs of the components of operating cushion. Exhibit 8 presents median gross margin (before depreciation) as a percent of revenue, Exhibit 9 presents median selling, general and administrative expense (before depreciation) as a percent of revenue, and Exhibit 10 presents median research and development expense as a percent of revenue.

**Exhibit 7. Median Operating Cushion, 2000 – 2008, S&P 500 Non-financials.**



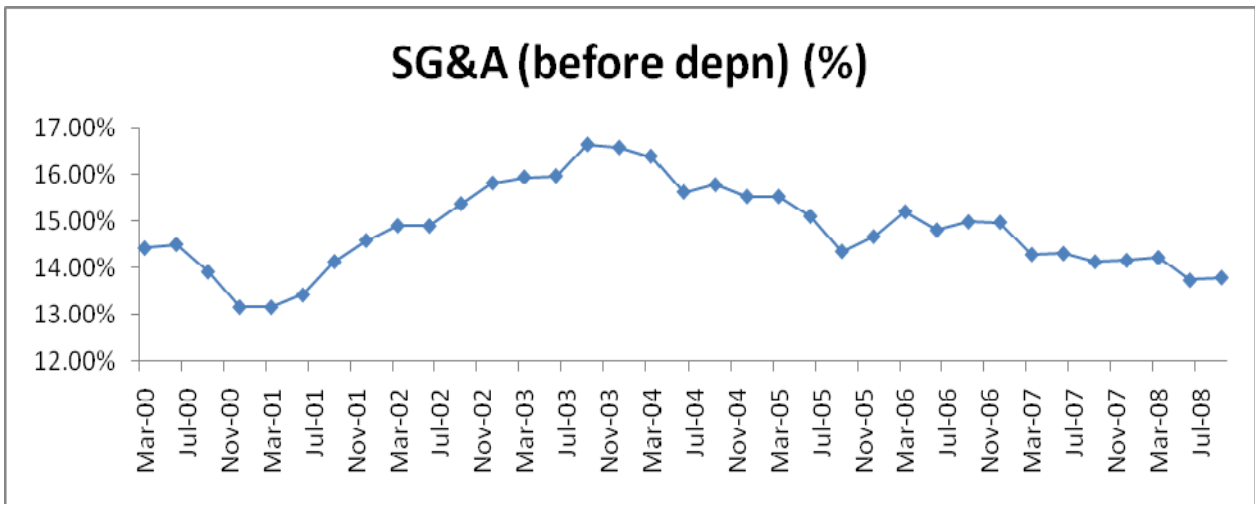

Refer to Table 3 for data supporting the graph.

**Exhibit 8. Median Gross Margin % (before depreciation) 2005 – 2008, S&P 500 Non-financials.**



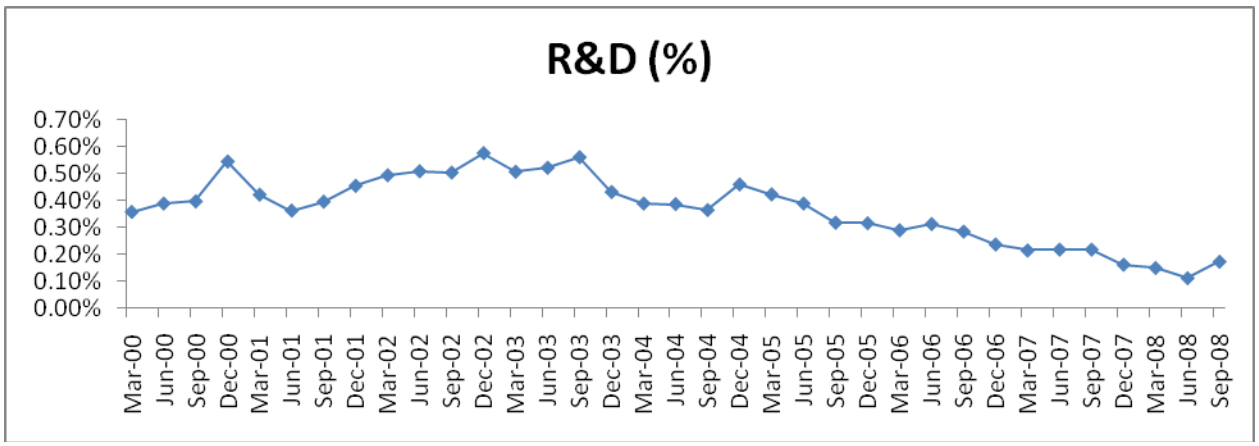

Refer to Table 3 for data supporting the graph.

**Exhibit 9. Median Selling, General and Administrative Expense % (before depreciation) 2000 – 2008, S&P 500 Non-financials.**




Refer to Table 3 for data supporting the graph.

**Exhibit 10. Median Research and Development Expense % 2000 – 2008, S&P 500 Non-financials.**

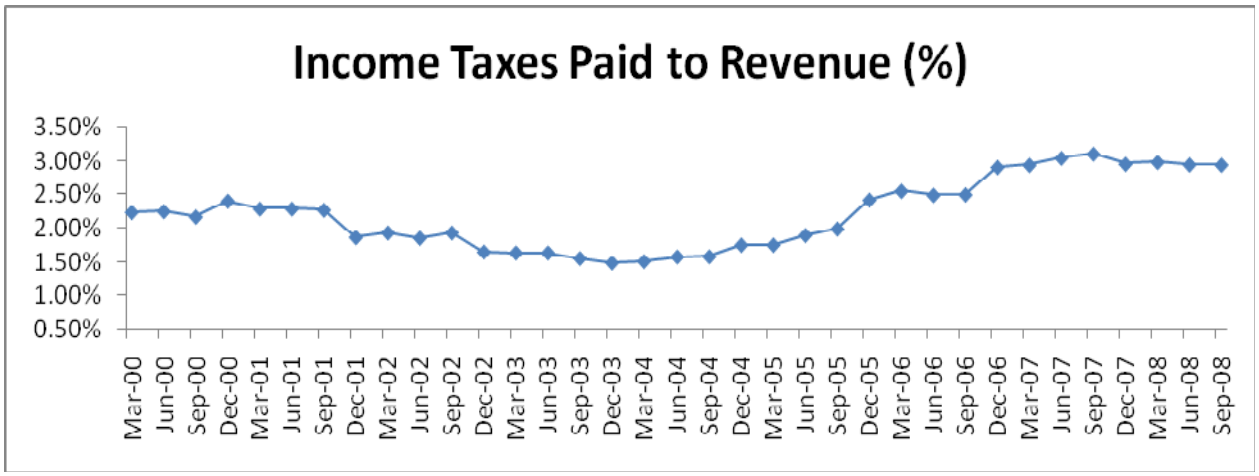



Refer to Table 3 for data supporting the graph.

During the twelve months ending in September 2008, we saw a slight improvement in the median operating cushion. During that period, operating cushion improved to 19.85% from 19.62% in the twelve months ending September 2007. The improvement in operating cushion helped to improve operating cash margin and, in turn, free cash margin. Contributing to the improvement in operating cushion were reductions in the SG&A% (before depreciation) and R&D%, which offset a slight decline in gross margin% (before depreciation). For reference purposes, operating cushion declined to 16.53% during the twelve months ended December 2001.

In Exhibit 11 we present median income taxes paid as a percentage of revenue.

**Exhibit 11. Median Income Taxes Paid % 2000 – 2008, S&P 500 Non-financials.**




Refer to Table 3 for data supporting the graph.

As seen in Exhibit 11, income taxes paid decreased to 2.94% of revenue in the twelve months ended September 2008 from 3.10% during the same period in 2007. Factors that can contribute to a reduction in income taxes paid to revenue include a reduction in the effective tax rate and increases in deferred tax liabilities. A less likely factor is a slowing in the payment rate of estimated taxes. Income taxes paid declined to 1.86% of revenue during the twelve months ended December 2001.

**Table 3. Profitability, 2000 – 2008, S&P 500 Non-financials.**

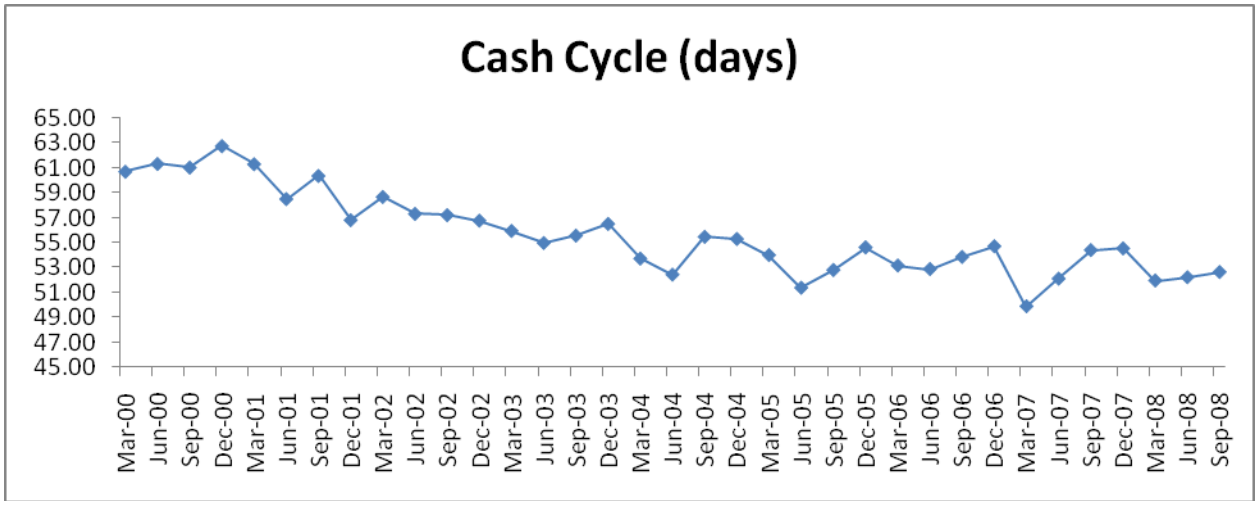
| Date | Operating Cushion (%) | Gross Margin (before depn) (%) | SG&A (before depn) (%) | R&D (before depn) (%) | Revenue | % Change | Income Taxes Paid to Revenue (%) |
|---|---|---|---|---|---|---|---|
| Mar-00 | 18.44% | 36.35% | 14.43% | 0.36% | 5,412,817,500 | | 2.24% |
| Jun-00 | 19.31% | 37.49% | 14.51% | 0.39% | 5,511,975,500 | 1.83% | 2.25% |
| Sep-00 | 18.74% | 36.41% | 13.92% | 0.40% | 5,594,426,500 | 1.50% | 2.17% |
| Dec-00 | 18.95% | 37.05% | 13.17% | 0.55% | 5,686,000,000 | 1.64% | 2.40% |
| Mar-01 | 18.70% | 36.85% | 13.17% | 0.42% | 5,817,397,000 | 2.31% | 2.29% |
| Jun-01 | 17.84% | 36.63% | 13.43% | 0.36% | 5,908,650,000 | 1.57% | 2.29% |
| Sep-01 | 17.57% | 36.57% | 14.14% | 0.40% | 5,768,255,000 | -2.38% | 2.27% |
| Dec-01 | 16.53% | 35.14% | 14.59% | 0.46% | 5,911,700,000 | 2.49% | 1.86% |
| Mar-02 | 16.15% | 35.77% | 14.90% | 0.50% | 5,703,000,000 | -3.53% | 1.93% |
| Jun-02 | 16.50% | 35.20% | 14.90% | 0.51% | 5,509,803,000 | -3.39% | 1.85% |
| Sep-02 | 17.15% | 36.48% | 15.37% | 0.51% | 5,473,282,000 | -0.66% | 1.93% |
| Dec-02 | 17.12% | 37.20% | 15.81% | 0.58% | 5,517,306,000 | 0.80% | 1.65% |
| Mar-03 | 16.85% | 36.88% | 15.94% | 0.51% | 5,863,000,000 | 6.27% | 1.63% |
| Jun-03 | 16.66% | 37.51% | 15.97% | 0.52% | 5,734,000,000 | -2.20% | 1.63% |
| Sep-03 | 16.36% | 38.29% | 16.64% | 0.56% | 5,979,500,000 | 4.28% | 1.55% |
| Dec-03 | 16.93% | 38.57% | 16.57% | 0.43% | 6,146,404,000 | 2.79% | 1.48% |
| Mar-04 | 17.36% | 38.55% | 16.39% | 0.39% | 6,317,000,000 | 2.78% | 1.51% |
| Jun-04 | 18.38% | 38.34% | 15.62% | 0.39% | 6,395,000,000 | 1.23% | 1.58% |
| Sep-04 | 19.01% | 37.98% | 15.78% | 0.37% | 6,545,328,000 | 2.35% | 1.58% |
| Dec-04 | 19.18% | 38.40% | 15.53% | 0.46% | 6,974,840,500 | 6.56% | 1.75% |
| Mar-05 | 18.88% | 37.76% | 15.53% | 0.42% | 7,240,165,000 | 3.80% | 1.75% |
| Jun-05 | 18.63% | 38.38% | 15.11% | 0.39% | 7,479,440,000 | 3.30% | 1.90% |
| Sep-05 | 18.17% | 37.89% | 14.36% | 0.32% | 7,524,386,000 | 0.60% | 1.99% |
| Dec-05 | 18.14% | 38.02% | 14.67% | 0.32% | 7,585,500,000 | 0.81% | 2.42% |
| Mar-06 | 18.26% | 38.26% | 15.20% | 0.29% | 7,643,855,000 | 0.77% | 2.55% |
| Jun-06 | 19.06% | 38.54% | 14.81% | 0.31% | 7,893,000,000 | 3.26% | 2.49% |
| Sep-06 | 19.47% | 38.70% | 14.99% | 0.29% | 8,179,350,000 | 3.63% | 2.50% |
| Dec-06 | 19.59% | 38.88% | 14.98% | 0.24% | 8,074,253,000 | -1.28% | 2.90% |
| Mar-07 | 19.88% | 39.01% | 14.29% | 0.22% | 8,147,022,000 | 0.90% | 2.94% |
| Jun-07 | 19.57% | 38.86% | 14.31% | 0.22% | 8,413,159,500 | 3.27% | 3.04% |
| Sep-07 | 19.62% | 38.76% | 14.14% | 0.22% | 8,828,100,000 | 4.93% | 3.10% |
| Dec-07 | 19.74% | 38.49% | 14.17% | 0.16% | 8,912,139,500 | 0.95% | 2.95% |
| Mar-08 | 19.47% | 38.67% | 14.23% | 0.15% | 8,886,240,000 | -0.29% | 2.98% |
| Jun-08 | 19.66% | 38.92% | 13.75% | 0.11% | 8,709,450,000 | -1.99% | 2.94% |
| Sep-08 | 19.85% | 38.54% | 13.80% | 0.17% | 8,686,021,000 | -0.27% | 2.94% |

### *Efficiency*

In Exhibit 12 we look at the cash cycle, or the median length of time in days the firm has its own funds tied up in operating working capital. Increases in the cash cycle denote declines in efficiency. For example, difficulties in collecting receivables or selling inventory will translate into increases in the cash cycle. Steps taken to pay bills more slowly will also raise the cash

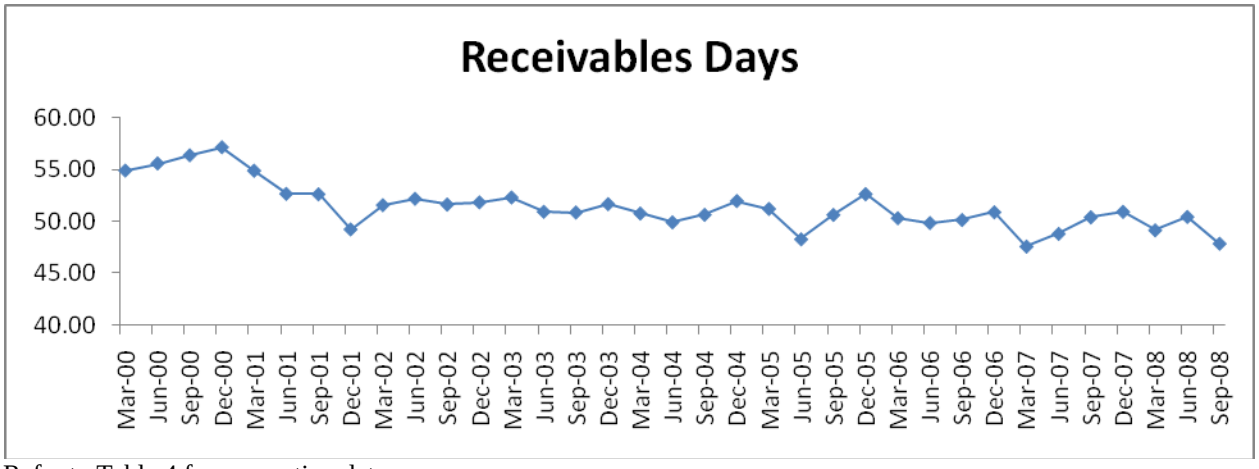
cycle. The cash cycle presented in the Exhibit is a composite, calculated as median receivables days + median inventory days – median payables days. It does not reflect the cash cycle of an actual firm. Exhibit 12 is followed with separate graphs for the components of the cash cycle. Exhibit 13 presents median receivables days, Exhibit 14 presents median inventory days and in Exhibit 15 we present median payables days.

**Exhibit 12. Median Cash Cycle 2000 – 2008, S&P 500 Non-financials.**



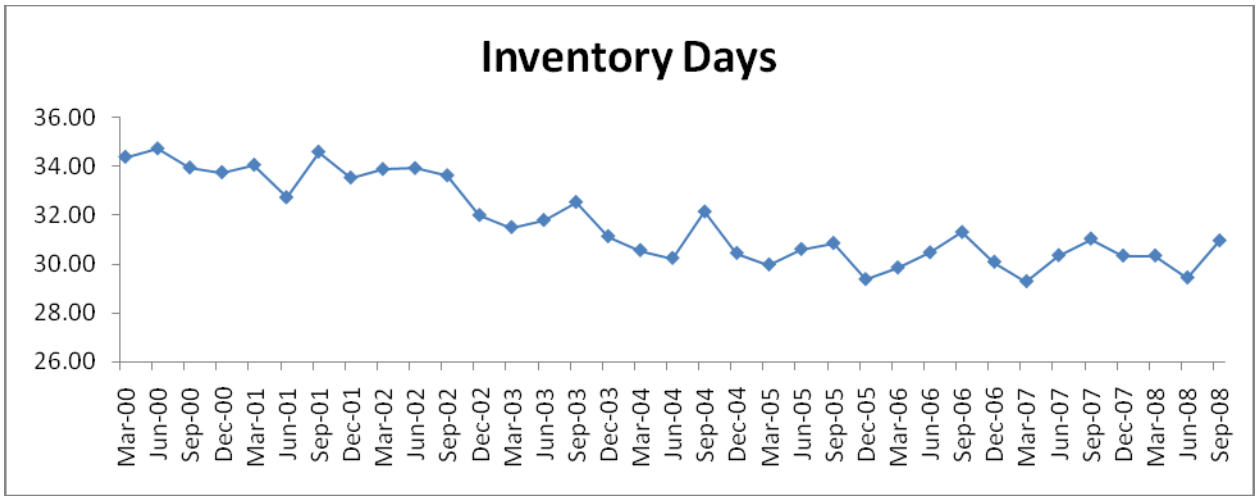

Refer to Table 4 for supporting data.

**Exhibit 13. Median Receivables Days 2000 – 2008, S&P 500 Non-financials.**



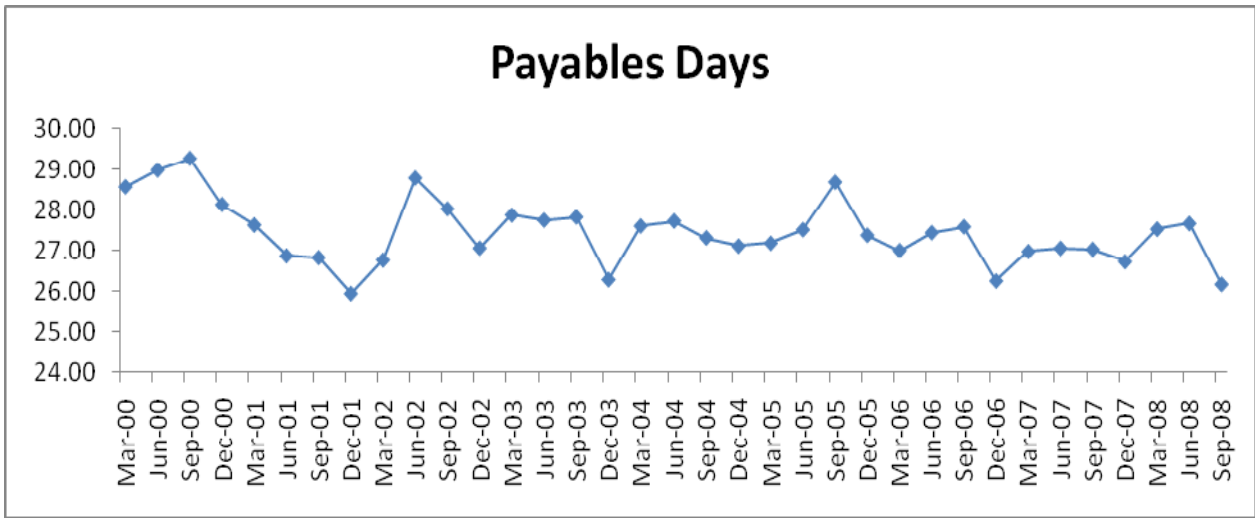

Refer to Table 4 for supporting data.

**Exhibit 14. Median Inventory Days 2005 – 2008, S&P 500 Non-financials.**




Refer to Table 4 for supporting data.

**Exhibit 15. Median Payables Days 2005 – 2008, S&P 500 Non-financials.**




Refer to Table 4 for supporting data.

During the twelve months ending in September 2008 the composite median cash cycle changed very little from September 2007, declining to a median 52.64 days in 2008 from a median 54.40 days in 2007, due to reductions in median receivables days and median inventory days and offset by a reduction in median payables days. For comparison, the median cash cycle was 60.38 days for the twelve months ended September 2001.

**Table 4. Efficiency, 2000 – 2008, S&P 500 Non-financials.**

| Date | Cash Cycle (days) | Receivables Days | Inventory Days | Payables Days |
|---|---|---|---|---|
| Mar-00 | 60.72 | 54.92 | 34.37 | 28.57 |
| Jun-00 | 61.34 | 55.61 | 34.72 | 28.98 |
| Sep-00 | 61.05 | 56.39 | 33.93 | 29.27 |
| Dec-00 | 62.78 | 57.17 | 33.74 | 28.13 |
| Mar-01 | 61.32 | 54.90 | 34.05 | 27.63 |
| Jun-01 | 58.52 | 52.67 | 32.72 | 26.87 |
| Sep-01 | 60.38 | 52.63 | 34.58 | 26.83 |
| Dec-01 | 56.82 | 49.24 | 33.53 | 25.95 |
| Mar-02 | 58.69 | 51.58 | 33.88 | 26.77 |
| Jun-02 | 57.32 | 52.20 | 33.91 | 28.79 |
| Sep-02 | 57.22 | 51.63 | 33.62 | 28.03 |
| Dec-02 | 56.78 | 51.85 | 31.99 | 27.06 |
| Mar-03 | 55.95 | 52.32 | 31.50 | 27.87 |
| Jun-03 | 54.98 | 50.94 | 31.79 | 27.75 |
| Sep-03 | 55.57 | 50.87 | 32.52 | 27.83 |
| Dec-03 | 56.52 | 51.68 | 31.13 | 26.29 |
| Mar-04 | 53.72 | 50.77 | 30.55 | 27.61 |
| Jun-04 | 52.43 | 49.92 | 30.24 | 27.73 |
| Sep-04 | 55.47 | 50.65 | 32.13 | 27.32 |
| Dec-04 | 55.30 | 51.98 | 30.44 | 27.11 |
| Mar-05 | 54.00 | 51.22 | 29.97 | 27.18 |
| Jun-05 | 51.37 | 48.28 | 30.60 | 27.51 |
| Sep-05 | 52.80 | 50.64 | 30.85 | 28.68 |
| Dec-05 | 54.63 | 52.64 | 29.37 | 27.38 |
| Mar-06 | 53.16 | 50.32 | 29.84 | 27.00 |
| Jun-06 | 52.88 | 49.85 | 30.47 | 27.44 |
| Sep-06 | 53.86 | 50.15 | 31.30 | 27.59 |
| Dec-06 | 54.71 | 50.89 | 30.08 | 26.26 |
| Mar-07 | 49.88 | 47.58 | 29.28 | 26.98 |
| Jun-07 | 52.10 | 48.81 | 30.35 | 27.06 |
| Sep-07 | 54.40 | 50.41 | 31.03 | 27.03 |
| Dec-07 | 54.54 | 50.93 | 30.33 | 26.73 |
| Mar-08 | 51.96 | 49.15 | 30.33 | 27.53 |
| Jun-08 | 52.22 | 50.45 | 29.43 | 27.67 |
| Sep-08 | 52.64 | 47.86 | 30.95 | 26.17 |

## Concluding Observations

As the global recession continues it is important to have an ongoing read on how corporate America is holding up. Given the relevance of cash flow to corporate financial performance, we think that a recurring look at the cash flow generation of different firm groups and industries is helpful. Our primary focus is on free cash margin, or free cash flow measured as a percent of revenue. In the current study we look at the non-financials of the S&P 500.

During the twelve months ended September 2008, free cash margin for the S&P 500 non-financials declined to 6.70% from 7.31% for the twelve months ended September 2007. Operating cash margin improved slightly during the same period, helped by improvements in operating cushion and the operating cycle. Increased capital spending pushed free cash margin lower even as operating cash margin improved.

In the 2001 recession, free cash margin troughed at 4.36%. Thus, by all indications, we can expect a significant decline in free cash margin from current levels. As a point of reference, a 300 basis point decline (say to the 4% range in free cash margin) would cut free cash flow on the order of 40%. While we do not know how far free cash margin might decline, at the present, with a median $666.70 million on hand, these firms had ample cash and short-term investments to help them weather the financial storm.